

WHAT IS CLAIMED IS:

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1 / An exposure method including plural sample shot processes to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot processes, said method comprising:

— a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes; and

10 a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process;

15 wherein, in at least one of the first and second determining steps, the determination is made under a condition that an interval between a shot to be processed last in the first sample shot process and a shot to be processed first in the second sample shot process is shortened.

20 2. A method according to Claim 1, wherein, in said at least one determining step, positions of sample shots are also determined.

25 3. An exposure method including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said method comprising:

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a first determining step for determining the processing order in the sample shot process; and
a second determining step for determining the processing order in the exposure process to be made
5 after the sample shot process;

wherein, in at least one of the first and second determining steps, the determination is made under a condition that an interval between a shot to be processed last in the sample shot process and a
10 shot to be processed first in the exposure process is shortened.

4. A method according to Claim 3, wherein, in said at least one determining step, positions of
15 sample shots are also determined.

5. An exposure method including plural sample shot processes to be made to a substrate and an exposure process to be made to the substrate after
20 completion of the sample shot processes, said method comprising:

a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes; and
25 a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process, in

accordance with a position of a shot to be processed last in the first sample shot process.

6. An exposure method including plural sample
5 shot processes to be made to a substrate and an
exposure process to be made to the substrate after
completion of the sample shot processes, said method
comprising:

a first determining step for determining the
10 processing order in a first sample shot process, of
the plural sample shot processes; and

a second determining step for determining the
processing order in a second sample shot process to be
made prior to the first sample shot process, on the
15 basis of a position of a shot to be processed first in
the first sample shot process.

7. An exposure method including a sample shot
process to be made to a substrate and an exposure
20 process to be made to the substrate after completion
of the sample shot process, said method comprising:

a first determining step for determining the
processing order in the sample shot process; and

a second determining step for determining the
25 processing order in the exposure process to be made
after the sample shot process, in accordance with a
position of a shot to be processed last in the sample

shot process.

8. An exposure method including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said method comprising:

a first determining step for determining the processing order in the exposure process; and

10 a second determining step for determining the processing order in the sample shot process to be made prior to the exposure process, in accordance with a position of a shot to be processed first in the exposure process.

15 9. An exposure method including plural sample shot processes to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot processes, said method comprising:

20 a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes; and

25 a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process;

wherein, in at least one of the first and second determining steps, the determination is made so

that a difference between a position of a shot to be processed last in the first sample shot process and a position of a shot to be processed first in the second sample shot process is placed within a range of a single shot with respect to a vertical and longitudinal size in a shot layout.

10. An exposure method including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said method comprising:

a first determining step for determining the processing order in the sample shot process; and
15 a second determining step for determining the processing order in the exposure process to be made after the sample shot process;

wherein, in at least one of the first and second determining steps, the determination is made so that a difference between a position of a shot to be processed last in the sample shot process and a position of a shot to be processed first in the exposure process is placed within a range of a single shot with respect to a vertical and longitudinal size in a shot layout.

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11. A device manufacturing method, comprising:
an exposure step including plural sample shot

processes to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot processes, said exposure step further including (i) a first determining step for
5 determining the processing order in a first sample shot process, of the plural sample shot processes, and (ii) a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process, wherein, in
10 at least one of the first and second determining steps, the determination is made under a condition that an interval between a shot to be processed last in the first sample shot process and a shot to be processed first in the second sample shot process is
15 shortened; and
a developing step for performing a development process to the substrate having been processed at said exposure step, for production of devices on the substrate.

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12. A method according to Claim 11, wherein, in said at least one determining step, positions of sample shots are also determined.

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13. A device manufacturing method, comprising:
an exposure step including a sample shot process to be made to a substrate and an exposure

process to be made to the substrate after completion
of the sample shot process, said exposure step further
including (i) a first determining step for determining
the processing order in the sample shot process, and
5 (ii) a second determining step for determining the
processing order in the exposure process to be made
after the sample shot process, wherein, in at least
one of the first and second determining steps, the
determination is made under a condition that an
interval between a shot to be processed last in the
sample shot process and a shot to be processed first
in the exposure process is shortened; and
a developing step for performing a
development process to the substrate having been
15 processed at said exposure step, for production of
devices on the substrate.

14. A method according to Claim 13, wherein, in
said at least one determining step, positions of
20 sample shots are also determined.

15. A device manufacturing method, comprising:
an exposure step including plural sample shot
processes to be made to a substrate and an exposure
25 process to be made to the substrate after completion
of the sample shot processes, said exposure step
further including (i) a first determining step for

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determining the processing order in a first sample shot process, of the plural sample shot processes, and

5 (ii) a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process, in accordance with a position of a shot to be processed last in the first sample shot process; and

a developing step for performing a development process to the substrate having been

10 processed at said exposure step, for production of devices on the substrate.

16. A device manufacturing method, comprising:

an exposure step including plural sample shot

15 processes to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot processes, said exposure step further including (i) a first determining step for determining the processing order in a first sample

20 shot process, of the plural sample shot processes, and (ii) a second determining step for determining the processing order in a second sample shot process to be made prior to the first sample shot process, on the basis of a position of a shot to be processed first in

25 the first sample shot process; and

a developing step for performing a development process to the substrate having been

processed at said exposure step, for production of devices on the substrate.

17. A device manufacturing method, comprising:

5 an exposure step including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said exposure step further including (i) a first determining step for determining the processing order in the sample shot process, and
10 (ii) a second determining step for determining the processing order in the exposure process to be made after the sample shot process, in accordance with a position of a shot to be processed last in the sample shot process; and
15 a developing step for performing a development process to the substrate having been processed at said exposure step, for production of devices on the substrate.

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18. A device manufacturing method, comprising:

25 an exposure step including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said exposure step further including (i) a first determining step for determining the processing order in the exposure process, and (ii)

a second determining step for determining the processing order in the sample shot process to be made prior to the exposure process, in accordance with a position of a shot to be processed first in the
5 exposure process; and
a developing step for performing a development process to the substrate having been processed at said exposure step, for production of devices on the substrate.

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19. A device manufacturing method, comprising:
an exposure step including plural sample shot processes to be made to a substrate and an exposure process to be made to the substrate after completion
15 of the sample shot processes, said exposure step further including (i) a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes, and (ii) a second determining step for determining the
20 processing order in a second sample shot process to be made after the first sample shot process, wherein, in at least one of the first and second determining steps, the determination is made so that a difference between a position of a shot to be processed last in
25 the first sample shot process and a position of a shot to be processed first in the second sample shot process is placed within a range of a single shot with

respect to a vertical and longitudinal size in a shot layout; and

5 a developing step for performing a development process to the substrate having been processed at said exposure step, for production of devices on the substrate.

20. A device manufacturing method, comprising:

10 an exposure step including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said exposure step further including (i) a first determining step for determining the processing order in the sample shot process, and

15 (ii) a second determining step for determining the processing order in the exposure process to be made after the sample shot process, wherein, in at least one of the first and second determining steps, the determination is made so that a difference between a position of a shot to be processed last in the sample shot process and a position of a shot to be processed first in the exposure process is placed within a range of a single shot with respect to a vertical and longitudinal size in a shot layout; and

20 a developing step for performing a development process to the substrate having been processed at said exposure step, for production of

devices on the substrate.

21. An exposure apparatus wherein plural sample shot processes are made to a substrate and an exposure process is made to the substrate after completion of the sample shot processes, said apparatus comprising:

first determining means for determining the processing order in a first sample shot process, of the plural sample shot processes; and

10 second determining means for determining the processing order in a second sample shot process to be made after the first sample shot process;

wherein, in at least one of said first and second determining means, the determination is made under a condition that an interval between a shot to be processed last in the first sample shot process and a shot to be processed first in the second sample shot process is shortened.

20 22. An apparatus according to Claim 21, wherein, in said at least one determining means, positions of sample shots are also determined.

25 23. An exposure apparatus wherein a sample shot process is made to a substrate and an exposure process is made to the substrate after completion of the sample shot process, said apparatus comprising:

first determining means for determining the processing order in the sample shot process; and
second determining means for determining the processing order in the exposure process to be made
5 after the sample shot process;

wherein, in at least one of the first and second determining means, the determination is made under a condition that an interval between a shot to be processed last in the sample shot process and a
10 shot to be processed first in the exposure process is shortened.

24. An apparatus according to Claim 23, wherein, in said at least one determining means, positions of
15 sample shots are also determined.

25. An exposure apparatus wherein plural sample shot processes are made to a substrate and an exposure process is made to the substrate after completion of
20 the sample shot processes, said apparatus comprising:

first determining means for determining the processing order in a first sample shot process, of the plural sample shot processes; and
second determining means for determining the processing order in a second sample shot process to be
25 made after the first sample shot process, in accordance with a position of a shot to be processed

last in the first sample shot process.

26. An exposure apparatus wherein plural sample shot processes are made to a substrate and an exposure process is made to the substrate after completion of the sample shot processes, said apparatus comprising:

first determining means for determining the processing order in a first sample shot process, of the plural sample shot processes; and

10 second determining means for determining the processing order in a second sample shot process to be made prior to the first sample shot process, on the basis of a position of a shot to be processed first in the first sample shot process.

15 27. An exposure apparatus wherein a sample shot process is made to a substrate and an exposure process is made to the substrate after completion of the sample shot process, said apparatus comprising:

20 first determining means for determining the processing order in the sample shot process; and

second determining means for determining the processing order in the exposure process to be made after the sample shot process, in accordance with a 25 position of a shot to be processed last in the sample shot process.

28. An exposure apparatus wherein a sample shot process is made to a substrate and an exposure process is made to the substrate after completion of the sample shot process, said apparatus comprising:

5 first determining means for determining the processing order in the exposure process; and

10 second determining means for determining the processing order in the sample shot process to be made prior to the exposure process, in accordance with a position of a shot to be processed first in the exposure process.

29. An exposure apparatus wherein plural sample shot processes are made to a substrate and an exposure process is made to the substrate after completion of the sample shot processes, said apparatus comprising:

15 first determining means for determining the processing order in a first sample shot process, of the plural sample shot processes; and

20 second determining means for determining the processing order in a second sample shot process to be made after the first sample shot process;

25 wherein, in at least one of the first and second determining means, the determination is made so that a difference between a position of a shot to be processed last in the first sample shot process and a position of a shot to be processed first in the second

sample shot process is placed within a range of a single shot with respect to a vertical and longitudinal size in a shot layout.

5 30. An exposure apparatus wherein a sample shot process is made to a substrate and an exposure process is made to the substrate after completion of the sample shot process, said apparatus comprising:

10 first determining means for determining the processing order in the sample shot process; and
 second determining means for determining the processing order in the exposure process to be made after the sample shot process;

15 wherein, in at least one of the first and second determining means, the determination is made so that a difference between a position of a shot to be processed last in the sample shot process and a position of a shot to be processed first in the exposure process is placed within a range of a single shot with respect to a vertical and longitudinal size in a shot layout.